with four-grade ammonium salt is used for an electrolyte of an alkaline sorage batter making cadmium an anode active material. As this four-grade ammonium salt, for example, tetraethylammonium bromide is used. With this electrolyte used, hydrogen voltage of the negative pole is raised whereby hydrogen gas generation is checked so that gas pressure inside the battery is restrained from rising. Therefore, the alkaline storage battery that is well resistible to quick charging is offerable.

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(54) **SECONDARY BATTERY MADE INTO IC**
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(71) NEC CORP (72) HIDEKAZU MATSUMOTO
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PURPOSE: To optimize charging and discharging efficiencies in a secondary battery, by constituting the secondary battery with a current detecting resistor connected to the battery in series and a microcomputer, while metering a state of charging and discharging with the microcomputer.

CONSTITUTION: A microcomputer 3, which is connected to a secondary battery 1, a current detecting resistor 2 connected to this battery 1 in series and a minus terminal 10 and a plus terminal 11 of the secondary battery 1, and detects analog input terminals 22 and 23, connected to both ends of the detecting resistor 2, is installed and thereby a secondary battery made into IC is formed. And, with the microcomputer 3, a difference between voltage VB and V'B of these terminals 11 and 12 is found, whereby a state of charging and discharging is judged, further calculating a passing current of the detecting resistor 2, and according to these data and counting data inside the microcomputer 3, an integrating value of charging and discharging power and time is found and outputted. Therefore, charging and discharging efficiencies in the secondary battery is optimizable and, what is more, energy storing force is able to be drawn out to the maximum.